

U.S. Patent Application Serial No. 10/577,243
Reply to Office Action dated January 2, 2008

IN THE ABSTRACT

Abstract on page 38:

A spectrophotometer, ~~for~~ is provided whereby ~~stable measurement can be performed with high processing rate and high accuracy, in~~ online non-destructive optical examination of fruit or vegetables or the like ~~avoids using near infra-red light or the like, wherein there is no possibility of saturation of the data level, or [[of]] the data level being too small, [[and]] due to changes in rate of feeding or variation in the~~ can be dealt with by making use of for example the differences in density, in thickness of the skin, and in size of the fruit or vegetables, which are found even in the same type of fruit or vegetables. Light that has passed through the fruit or ~~other article~~ vegetables or the like is divided into different spectral components and received at two locations, ~~[[by]]~~ a main light reception unit and a sample-use light reception unit. First of all, ~~digital comparison operation of a~~ A digital value obtained from the sample-use light reception unit ~~is compared~~ with a predetermined reference value, ~~is performed and, as a result of~~ Based on this comparison, the gain of a variable gain amplification circuit is set to an optimum value. Then, ~~the~~ The signal from the main light reception unit is passed through the variable gain amplification circuit, a zero-point correction circuit, and ~~an~~ A/D converter, to obtain digital data to be read for obtaining suitable wavelength characteristic data.